

CLAIMS

1. Explosive attachment device for mechanical connections of components, internally equipped with an explosive charge, the detonation shock effect of which is strong enough for rupturing a connection forming part of the attachment device, for a rapid disconnection,
characterized therein,
that the attachment device incorporates an attachment screw (2), which extends through the interconnected components (1) and an explosive attachment element (4-14) in which the attachment screw (2) is fixedly mounted, thus that the interconnected components (1) are clamped between the head of the said attachment screw (2) and the explosive attachment element (4-14), which explosive element (4-14) comprises a cylinder (4), which is closed by means of a cover (5), which engages against one of the interconnected components (1) and a piston (6) mounted in the cylinder (4), which has substantially the same outer diameter as the inner diameter of the cylinder (4), and which piston (6) is arranged inside the cylinder (4) thus that there is a substantial space at both sides of the piston (6), whereby in the space between the piston (6) and the bottom of the cylinder (4) is provided a circular row of small holes (14) in the wall of the cylinder (4) at a distance from the bottom of the cylinder (4), which is at least equal to the height of the piston (6) at its biggest diameter and which piston (6) is provided with a rod (7) with a substantially smaller diameter than the inner diameter of the cylinder (4) and which rod (7) extends in parallel to the longitudinal mean axis of the cylinder (4) through the cover (5), but not outside this, thus that the attachment screw (2) can be fixedly mounted in the rod (7) and in which cylinder (4) in the space between the piston and the cover (5) is arranged the explosive charge (9), which is provided with a firing device (10,11,12,13), which is equipped with a delay mechanism, whereby the attachment device after a time delay is arranged to be blasted in such a manner, that the blasting pressure is converted to a pulling stress, which acts upon the attachment screw (2) to be pulled off without the other part of the device being splitted.

2. Explosive attachment device as claimed in claim 1,
characterized therein,
that the delay mechanism comprises a blasting fuse (10), which is equipped with two igniting fuses (11, 12), one positioned at each end of the blasting fuse (10) and an electric cable (13), which comes from the outside and is connected to one of the igniting fuses (11) mounted in the blasting fuse (10) and which blasting fuse (10) is

positioned in the space between the piston (6) and the bottom of the cylinder (4) and where the end of the blasting fuse (10), which is not connected to the electric cable (13) extends through a hole in the piston (6), thus that the other igniting fuse (12) mounted in the blasting fuse (10) will be in contact with the explosive charge (9).

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3. Explosive attachment device as claimed in claim 1 or 2,

c h a r a c t e r i z e d t h e r e i n ,

that the cylinder (4) forming part of the device is closed by means of a collar-provided cover (5) by means of a thread arranged on the inner side of the collar, thus that the

10 cylinder (4) will not reach the bottom of the cover (5) but the edge of the cylinder (4) forms a threshold in the inner wall of the closed sapce.

4. Explosive attachment device as claimed in claim 1,

c h a r a c t e r i z e d t h e r e i n ,

15 that inside the cylinder (4) forming part of the device is provided a round locking washer (8), the outer diameter of which is substantially as big as the inner diameter of the cover (5), but substantially bigger than the inner diameter of the cylinder (4) and which locking washer (8) is provided with a central hole, the diameter of which is somewhat bigger than the diameter of the rod (7), but substantially smaller than a

20 collar arranged in the rod and the rod, and which locking washer (8) is fixedly mounted thus that the rod (7) extends through the central hole in the locking washer (8) and is clamped in position against the collar of the rod (7) by means of the piston (6), and which piston (6) has an outer diameter which at the locking washer (8) is substantially smaller than the inner diameter of the cylinder (4), thus that it is formed
25 a substantial space between the locking washer (8) and the thicker part of the piston (6).

5. Explosive attachment device as claimed in claim 1 and 2,

c h a r a c t e r i z e d t h e r e i n ,

30 that the attachment screw (2) forming part of the device is provided with a washer (3) positioned below the head of the attachment screw (2), and which washer (3) has the function of a shearing tool, whereby the washer (3) is manufactured from a strong material and around its central hole is provided with sharp edges.

6. Explosive attachment device as claimed in claim 2,
characterized therein,
that the blasting fuse (10) forming part of the device is positioned wound in spiral
form in the cylinder (4) in the space between the piston (6) and the bottom of the
5 cylinder (4).

7. Explosive attachment device as claimed in anyone of the preceding claims,
characterized therein,
that the cooperating portions of the rod (7) and the locking washer (8) and between
10 the locking washer (8) and the cylinder, are provided with cooperating means (15, 16)
preventing rotation of piston (6) and rod relative to each other at mounting of the
attachment device.